

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2006/066859

A. CLASSIFICATION OF SUBJECT MATTER INV. A01N43/50 A01N43/40 A01N43/653 A01N47/24 A01P3/00 A01N43/82 A01N53/00 A01N57/12 A01N59/06 A01N43/30 A01N37/20		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) A01N		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 797 301 B1 (DUVERT PATRICE ET AL) 28 September 2004 (2004-09-28) column 2, lines 17-62 column 3, lines 12-23 column 3, line 58 - column 4, line 15 -----	1-3,6, 14-18
X	EP 0 336 489 A (JANSSEN PHARMACEUTICA N.V) 11 October 1989 (1989-10-11) cited in the application page 2, lines 10-43 page 3, lines 24-51 -----	1-3,5,7, 12,14-18
X	WO 99/12422 A (JANSSEN PHARMACEUTICA N.V; BOSSELAERS, JAN, PIETER, HENDRIK; GARNIER,) 18 March 1999 (1999-03-18) cited in the application page 1, lines 5-8 page 3, line 32 - page 4, line 22 ----- -/--	1-3,5,7, 12,14-18
<div style="display: flex; justify-content: space-between;"> <input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex. </div>		
* Special categories of cited documents : <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>*A* document defining the general state of the art which is not considered to be of particular relevance</p> <p>*E* earlier document but published on or after the international filing date</p> <p>*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>*O* document referring to an oral disclosure, use, exhibition or other means</p> <p>*P* document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 45%;"> <p>*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>*Z* document member of the same patent family</p> </div> </div>		
Date of the actual completion of the international search <div style="text-align: center; font-weight: bold;">12 January 2007</div>	Date of mailing of the international search report <div style="text-align: center; font-weight: bold;">22/01/2007</div>	
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer <div style="text-align: center; font-weight: bold;">Klaver, Jos</div>	

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 02/054869 A (BASF AKTIENGESELLSCHAFT; MUELLER, BERND; PTOCK, ARNE; AMMERMAN, EBERH) 18 July 2002 (2002-07-18) page 1, lines 9-45 page 4, lines 30-33 page 5, lines 29,30 -----	1-18
A	WO 03/011030 A (BAYER CROPSCIENCE SA [FR]; GARNIER ALAIN JOSEPH JEAN FLOR [BE]; VERBRU) 13 February 2003 (2003-02-13) cited in the application the whole document -----	1-18

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2006/066859

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6797301	B1	28-09-2004	AR 029743 A1	16-07-2003
			AU 774038 B2	17-06-2004
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			ZA 200106734 A	15-08-2002
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			AT 126666 T	15-09-1995
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2006/066859

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 03011030	A	DE 60203299 T2	19-01-2006
		EP 1411766 A1	28-04-2004
		ES 2236560 T3	16-07-2005
		FR 2828065 A1	07-02-2003
		HK 1067494 A1	06-10-2006
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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

To:

see form PCT/ISA/220

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2006/066859

International filing date (day/month/year)
28.09.2006

Priority date (day/month/year)
29.09.2005

International Patent Classification (IPC) or both national classification and IPC

INV. A01N43/50 A01N43/40 A01N43/653 A01N47/24 A01P3/00 A01N43/82 A01N53/00 A01N57/12 A01N59/06
A01N43/30 A01N37/20

Applicant
JANSSEN PHARMACEUTICA N.V.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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Date of completion of
this opinion

see form
PCT/ISA/210

Authorized Officer

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2006/066859

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ on paper
 - ☐ in electronic form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in electronic form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
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Box No. IV Lack of unity of invention

1. ☐ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has, within the applicable time limit:
- ☐ paid additional fees
 - ☐ paid additional fees under protest and, where applicable, the protest fee
 - ☐ paid additional fees under protest but the applicable protest fee was not paid
 - ☐ not paid additional fees
2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☒ all parts.
 - ☐ the parts relating to claims Nos.

Box No. V Reasoned statement under Rule 43b/s.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1 - 18
	No: Claims	
Inventive step (IS)	Yes: Claims	4,, 7 - 11,13
	No: Claims	1 - 3, 5, 6, 12, 14 - 18
Industrial applicability (IA)	Yes: Claims	1 - 18
	No: Claims	

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2006/066859

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Re Item IV

Lack of unity of invention

This Authority considers that there are 8 inventions covered by the claims indicated as follows:

I: Claims 1 - 3 (part), 4 and 14 - 18 (part) directed to compositions comprising (I) imazalil and boscalid (II-a), use and preparation of such compositions and products containing them.

II: Claims 1 - 3 (part), 5, 7, 12 and 14 - 18 (part) directed to compositions comprising (I) imazalil and cyproconazole (II-b), triflumizole (II-d) or tetraconazole (II-i), use and preparation of such compositions and products containing them.

III: Claims 1 - 3 (part), 6 and 14 - 18 (part) directed to compositions comprising (I) imazalil and pyraclostrobin (II-c), use and preparation of such compositions and products containing them.

IV: Claims 1 - 3 (part), 8 and 14 - 18 (part) directed to compositions comprising (I) imazalil and acibenzolar-S-methyl (II-e), use and preparation of such compositions and products containing them.

V: Claims 1 - 3 (part), 9 and 14 - 18 (part) directed to compositions comprising (I) imazalil and carpropamid (II-f), use and preparation of such compositions and products containing them.

VI: Claims 1 - 3 (part), 10 and 14 - 18 (part) directed to compositions comprising (I) imazalil and fosetyl-Al (II-g), use and preparation of such compositions and products containing them.

VII: Claims 1 - 3 (part), 11 and 14 - 18 (part) directed to compositions comprising (I) imazalil and spiroxamine (II-h), use and preparation of such compositions and products containing them.

VIII: Claims 1 - 3 (part), 13 and 14 - 18 (part) directed to compositions comprising (I) imazalil and zoxamide (II-j), use and preparation of such compositions and products containing them.

The reasons for which the inventions are not so linked as to form a single general inventive concept, as required by Rule 13.1 PCT, are as follows:

Synergistic combinations of imazalil (I) and various other fungicides are known from the

prior art as can be seen from the citations in the International Search Report (ISR; see also item V below).

The special technical effect linking together the various inventions numbered I - VIII, the synergistic effect between imazalil and the second fungicide, hence is not novel. Since the fungicidal agents (II-a) - (II-j) are very different in their chemical structure and/or mode of action, the groups of claims are not linked by common or corresponding special technical features and define 8 different inventions not linked by a single general inventive concept. The application, hence does not meet the requirements of unity of invention as defined in Rules 13.1 and 13.2 PCT.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1). Compositions comprising imazalil and a second fungicide selected from (II-a) - (II-j) have not been disclosed in the documents cited in the ISR. The subject-matter of claims 1 - 18 hence is novel (Art. 33 (2) PCT).

2). a). US 6,797,301 B1 (= D1) discloses synergistic compositions for the treatment of fruit comprising an inhibitor of mitochondrial respiration in combination with a sterol biosynthesis inhibitor, in particular imazalil.

The claimed combination of imazalil with pyraclostrobin is an obvious further application of this technical teaching since pyraclostrobin is a known inhibitor of mitochondrial respiration. The concentration ranges of the fungicides as disclosed in D1 also are well within the scope of present claim 14.

The subject-matter of present claims 1 - 3, 6 and 14 - 18 -insofar as relating to imazalil/pyraclostrobin combinations- hence is not based on an inventive step (Art. 33 (3) PCT).

b). EP 336 489 A2 (= D2) and WO 99/12422 A1 (= D3) disclose synergistic combinations of imazalil and the triazole fungicides propiconazole and epoxiconazole. It is well-known in the art, that triazole fungicides all function through the inhibition of the sterol biosynthesis. The skilled artisan, knowing the contents of D2 and D3 thus would not hesitate to combine imazalil with closely analogous other triazole fungicides such as cyproconazole (II-b) or tetraconazole (II-i).

The subject-matter of claims 1 - 3, 5, 12 and 14 - 18, insofar as relating to these combinations, hence is not considered to be based on an inventive step (Art. 33 (3) PCT) either.

c). Combinations of imazalil (I) and boscalid (II-a), triflumizole (II-d), acibenzolar-S-methyl (II-e), carpropamid (II-f), spiroxamine (II-h) or zoxamid (II-j) have not been disclosed or suggested in the available prior art. The subject-matter of claims 1 - 4, 7 - 11 and 13 - 18 insofar as relating to these combinations hence is novel and inventive (Art. 33 (2) and (3) PCT).

d). The industrial applicability of claims 1 - 18 is evident (Art. 33 (4) PCT).

Re Item VII

Certain defects in the international application

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 is not mentioned in the description, nor is this document identified therein.